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12/01/1999

YOKO IKEDA

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09/24/2004

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EXAMINER

KIBLER, VIRGINIA M

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 09/24/2004

94

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/452,149

Applicant(s)

IKEDA ET AL.

Examiner

Virginia M Kibler

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) 2, 13, 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment received on 7/27/04 has been entered. Claims 1-34 remain pending.

Claim Objections

2. Claims 2, 13, and 15-17 are objected to because of the following informalities: “and for” should be changed to “for” in claim 2, line 6; and “comprising an data” should be changed to “comprising a data” in claims 13 and 16, line 1. Appropriate correction is required.

Claims 15-17 depend on claim 2, and are thereby objected to.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 27, and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation “said subject image” in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitation “said subject image” in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 31 recites the limitation “said subject image” in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi et al. (JP 07-201946).

Regarding claims 1 and 2, Takagi et al. ("Takagi") discloses an inspecting system including an analyzing unit (Para. 0013), said analyzing unit including extracting defect information including images of the defects of a workpiece (Para. 0030), thereby including an image detection device for producing a plurality of images of a workpiece. Takagi discloses a storage means 7 for storing said plurality of images produced by said image detection device and classification information (Para. 0033). Takagi discloses a display screen means 311 having a display screen (Para. 0045) with a first display screen area (Drawing 6) for displaying said plurality of images stored in said storage means that have not been classified (Para. 0047-0048) and a plurality of second display screen areas (Drawing 7) for classifying images according to visual features of said images (Para. 0047-0048).

Takagi discloses allowing the operator to classify the unclassified images visually using the plurality of second display screen areas (Para. 0047-0049). Takagi further discloses showing the operator the classification results visually in order to be able to check the results and make any needed modifications (Para. 0015; 0030; 0038; 0041), thereby allowing the operator to

Art Unit: 2623

visually compare the classification results. Takagi also provides a mouse, thereby a means for manually moving said plurality of images on said display screen, as shown in Drawings 6 and 7. While Takagi does not expressly discuss manually moving the plurality of images from first display screen area to selected second display screen areas, Takagi performs the same function of allowing the operator classify images based on visual comparison and displaying the classified image. One of ordinary skill in the art would have expected Applicant's invention to perform equally well with either classification taught by Takagi or the claimed means for manually moving the plurality of images.

Furthermore, it is a standard GUI procedure to allow images to be moved from one area to another on a display screen. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the classification of unclassified images disclosed by Takagi to include manually moving the unclassified images to selected second display screen areas to classify and display. The motivation for doing so would have been because the operation of moving an image from one area to another is well known and routinely utilized and by displaying the images in the selected second area shows the operator the classification results visually thereby allowing the operator to easily check the results and make any needed modifications. Therefore, it would have been obvious to modify Takagi to obtain the invention as specified in claims 1 and 2.

Regarding claim 3, the arguments analogous to those presented above for claim 1 are applicable to claim 3. Takagi discloses classifying images according to visual features of the images (Drawings 6 and 7; Para. 0047-0048). Takagi discloses providing information to said analyzing unit concerning images in the second display screen areas of the screen areas of said

screen (Para. 0048-0050) and controlling the production line having a manufacturing apparatus 8 arranged thereon using information obtained from said analyzing unit (Para. 0031-0032; Para. 0084).

Regarding claims 4 and 8, Takagi discloses an inspecting system including an analyzing unit (Para. 0013-0018), said analyzing unit including extracting defect information including images of the defects of a workpiece (Para. 0030), thereby including an image detection device to produce a plurality of images of semiconductor manufacturing defects (Para. 0001) for a workpiece. Takagi discloses a display screen (Para. 0045) with a sorting display screen area (Drawing 6) in which to display ones of said images with unclassified semiconductor manufacturing defects (Para. 0047-0048), and a plurality of defect-classification display screen areas (Drawing 7) into which each image of said images may be classified and displayed according to visual manufacturing defect features contained in the image (Para. 0047-0048).

Takagi discloses allowing the operator to classify the unclassified images visually using the plurality of defect-classification display screen areas (Para. 0047-0049). Takagi further discloses showing the operator the classification results visually in order to be able to check the results and make any needed modifications (Para. 0015; 0030; 0038; 0041), thereby allowing the operator to visually compare the classification results. Takagi also provides a mouse, thereby a means for user-manipulated moving said plurality of images on said display screen, as shown in Drawings 6 and 7. While Takagi does not expressly discuss manually moving the plurality of images from the sorting display screen area to selected ones of defect-classification display screen areas, Takagi performs the same function of allowing the operator classify images based on visual comparison and displaying the classified image. One of ordinary skill in the art would

have expected Applicant's invention to perform equally well with either classification taught by Takagi or the claimed user-manipulated moving an image.

Furthermore, it is a standard GUI to allow images to be moved from one area to another on a display screen. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the classification of unclassified images disclosed by Takagi to include user-manipulated moving of the unclassified images to selected ones of defect-classification display screen areas to classify and display. The motivation for doing so would have been because the operation of moving an image from one area to another is well known and routinely utilized and by displaying the images in the selected second area shows the operator the classification results visually thereby allowing the operator to easily check the results and make any needed modifications. Therefore, it would have been obvious to modify Takagi to obtain the invention as specified in claims 4 and 8.

Regarding claims 27 and 31, Takagi discloses an inspecting system including an analyzing unit (Para. 0013-0018), said analyzing unit including extracting defect information including images of the defects of a workpiece (Para. 0030), thereby including an image detection device to produce a plurality of images of semiconductor manufacturing defects (Para. 0001) for a workpiece. Takagi discloses a display screen (Para. 0045) for displaying a sorting display screen area (Drawing 6) in which plural ones of said images with unclassified semiconductor manufacturing defects are displayable (Para. 0047-0048), and simultaneously displaying a plurality of defect-classification display screen areas (Drawing 7) into which each image of said images may be classified and displayed according to visual manufacturing defect features contained in the image (Para. 0047-0048).

Takagi discloses allowing the operator to classify the unclassified images visually using the plurality of defect-classification display screen areas (Para. 0047-0049). Takagi further discloses showing the operator the classification results visually in order to be able to check the results and make any needed modifications (Para. 0015; 0030; 0038; 0041), thereby allowing the operator to visually compare the classification results. Takagi also provides a mouse, thereby a means for user-manipulated moving said plurality of images on said display screen, as shown in Drawings 6 and 7. While Takagi does not expressly discuss manually moving the plurality of images from the sorting display screen area to selected ones of defect-classification display screen areas, Takagi performs the same function of allowing the operator classify images based on visual comparison and displaying the classified image. One of ordinary skill in the art would have expected Applicant's invention to perform equally well with either classification taught by Takagi or the claimed user-manipulated moving an image.

Furthermore, it is a standard GUI to allow images to be moved from one area to another on a display screen. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the classification of unclassified images disclosed by Takagi to include user-manipulated moving of the unclassified images to selected ones of defect-classification display screen areas to classify and display. The motivation for doing so would have been because the operation of moving an image from one area to another is well known and routinely utilized and by displaying the images in the selected second area shows the operator the classification results visually thereby allowing the operator to easily check the results and make any needed modifications.

Takagi discloses displaying one representative image for each classification (Drawing 7; Para. 0047-0048). However, Takagi further discloses that the comparison can be made using a plurality of images of defects (Para. 0050). Therefore, it would have been obvious to one of ordinary skill in the art to have modified displaying one representative image to include simultaneously displaying multiple classified ones of the images because it would provide more examples thereby increasing the accuracy of the system. Therefore, it would have been obvious to modify Takagi to obtain the invention as specified in claims 27 and 31.

Regarding claims 12, 15, 18, 21, and 24, Takagi discloses displaying one representative image for each classification (Drawing 7; Para. 0047-0048). However, Takagi further discloses that the comparison can be made using a plurality of images of defects (Para. 0050). Therefore, it would have been obvious to one of ordinary skill in the art to have modified displaying one representative image to include simultaneously displaying multiple classified ones of the images because it would provide more examples thereby increasing the accuracy of the system.

Regarding claims 13, 16, and 19, the arguments analogous to those presented above for claim 1 are applicable to claims 13, 16, and 19. Takagi discloses a data update unit to automatically update the classification information stored in the storage means for each manual classification (Para. 0049).

Regarding claims 14, 17, 20, 22, and 25, Takagi discloses a user-classifier unit to allow user-designation of classification criteria for the plurality of second display screen areas (or defect-classification display screen areas) into which each image of the images may be classified and displayed (Para. 0047-0049).

Regarding claims 5, 6, 9, 10, 28, and 32, the arguments analogous to those presented above for claim 4 are applicable to claims 5, 6, 9, 10, 28, and 32. Note, Takagi discloses a mouse (Drawings 6 and 7), thereby a user-manipulated pointing device to point to, select and drag-and-drop.

Regarding claims 7, 11, 29, and 33, the arguments analogous to those presented above for claim 4 are applicable to claims 7, 11, 29, and 33. Takagi discloses including a memory to store predetermined information for at least ones of images including defect-classification information (Para. 0017-0021) and an adjuster unit to automatically adjust the defect-classification information for the images to match a defect classification of the selected one of the defect-classification display screen areas (Para. 0030, 0048-0049).

Regarding claims 23, 26, 30, and 34, the arguments analogous to those presented above for claim 4 are applicable to claims 23, 26, 30, and 34. Takagi discloses allowing the operator to classify the unclassified images visually using the plurality of defect-classification display screen areas (Para. 0047-0049). Takagi further discloses showing the operator the classification results visually in order to be able to check the results and make any needed modifications (Para. 0015; 0030; 0038; 0041), thereby allowing the operator to visually reclassify a classified image in a differing defect classification. Takagi also provides a mouse, thereby a means for user-manipulated moving said plurality of images on said display screen, as shown in Drawings 6 and 7. While Takagi does not expressly discuss user-manipulated moving of a previously classified image from one of the defect-classification display screen areas to a differing one of said defect-classification display screen areas, Takagi performs the same function of reclassifying based on visual comparison and displaying the classified image. One of ordinary skill in the art would

Art Unit: 2623

have expected Applicant's invention to perform equally well with either the reclassifying taught by Takagi or the claimed user-manipulated moving unit. Therefore, it would have been obvious to one of ordinary skill in the art to modify Takagi to obtain the invention as specified in claims 23, 26, 30, and 34.

Response to Arguments

7. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground of rejection.


Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Virginia Kibler can be reached on (703) 308-4072. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Virginia Kibler
09/21/04

MEHRDAD DASTOURI
PRIMARY EXAMINER

